

chemical diabetes) in a person not predisposed to the condition has not been established. As with atherosclerosis, maturity onset diabetes is a disease which evolves over many years. There are theoretical reasons for believing that oral contraceptives taken for several years could lead to irreversible changes in the pancreas and to symptomatic diabetes. An answer to this problem must, however, wait until further time has elapsed and the requisite clinical studies have been carried out.

So far in this statement, I have mentioned several important metabolic alterations caused by the oral contraceptives and have concentrated on those aspects which I consider likely to contribute to the development of atherosclerosis and diabetes. I have referred to the abnormal clotting disorders and to hypertension induced by these steroids. But there are many other metabolic changes which can be described in the users and the list continues to grow as investigators uncover more of the wide-ranging effects of this medication. These abnormalities contribute to many untoward symptoms encountered in oral contraceptive users such as weight gain and obesity, salt and water retention, liver dysfunction including jaundice, neuropsychiatric abnormalities such as anxiety, depression and loss of libido, chorea and increased susceptibility to attacks in epileptics, headache, migraine, weariness, changes in skin pigmentation, rheumatic complaints, leg cramps, vaginal moniliasis ("thrush") and an increased incidence of cervical erosion. I do not propose to discuss the biochemical abnormalities which underlie all of these untoward symptoms. Indeed, some of them have defied elucidation so far. These complaints, however, differ from the medical conditions with which I have been mainly concerned, since the remedy so far as the patient is concerned is quite simple. She merely stops the medication when the disadvantages due to the symptoms seem to outweigh the advantages of the medication. This, of course, is not the case in the woman in whom subtle metabolic changes are taking place which are producing no symptoms but could, in the end, result in serious ill health and even death. None of the alterations in the biochemistry of the body which I have enumerated are necessary for contraception but they are an inescapable consequence of the administration of synthetic oestrogen-progestagen ovulation inhibiting drugs.

At this point, we must question the desirability of using this method of controlling fertility. In a paper published in 1962 entitled "Suppression of Ovulation with Reference to Oral Contraceptives" in *Modern Trends in Endocrinology*, Butterworths, London, Dr. Gregory Pincus considered that in the application of ovulation suppression specifically for contraception three important criteria had to be met. The first was that the avoidance of any pathological side effect must be assured. The second was that the continuation of normal physiological function must be assured. Finally there should be no impairment of subsequent fertility by the medication. If these are the criteria by which the pill is to be judged, then I feel that the verdict must pronounce against the safety of the oral contraceptive. But the need for effective methods of contraception is great. I end, therefore, with a plea to those who have the authority, to ensure, by the provision of the necessary resources, and by their encouragement, that suitable alternatives to the steroidal contraceptives be found and made available in the shortest possible time.

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